

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

UNITED STATES OF AMERICA,

Plaintiff,

No. CR 14-0175 WHA

v.

PACIFIC GAS AND ELECTRIC
COMPANY,

Defendant.

**COURT REQUEST FOR AMENDED
RESPONSES AND FURTHER
QUESTIONS TO BE ANSWERED
BY PG&E**

The Court thanks PG&E for its response to its questions, but it appears that PG&E has failed to answer some of them. Accordingly, PG&E shall please amend its response to the below requests for information, and reply to the follow-up questions presented. Please provide detailed and complete answers to the questions by **FEBRUARY 18 AT NOON**.

DOCKET NO. 1111, QUESTION 4 ASKED: For the Burned Mountain Tower in question, when, how, and by whom was the jumper cable in question last inspected?

PG&E REPLIED: *“The jumper cables on Tower 001/006 were last inspected on July 18, 2019 by a PG&E troubleman during a routine detailed [visual] ground inspection . . . On February 6, 2019, a PG&E contractor crew assigned to WSIP performed a climbing inspection of Tower 001/006. On the electronic checklist used to document the*

1 climbing inspection, the personnel performing the inspection answered 'No' in response to the
 2 prompt, 'Jumpers in poor condition' . . . On May 23, 2019, PG&E's Drone Inspection Review
 3 Team ("DIRT") performed a drone inspection of the tower by reviewing the drone
 4 photographs [taken on May 11]. During that review, the DIRT team used the incorrect form
 5 (one for non-steel instead of steel structures) to document the inspection. The DIRT team
 6 answered 'N/A' in response to the prompt, "Jumpers in poor condition" (1119.8.2–10;
 7 9.1--10).

8
 9 **Regarding the July 2019 "ground" inspection, who was the inspector? Give the**
 10 **name and contact information. The name and contact information may be filed under**
 11 **seal for now, if PG&E requests. The Court, however, may require him or her to testify.**
 12 **As a ground inspection, how close to the jumper cable did the inspector get? How could**
 13 **it be a "detailed" inspection if he or she stayed on the ground? Did the inspector take**
 14 **photographs of the jumper cable? If so, provide them. What specifically did the**
 15 **inspector do to ascertain whether the jumper cable remained secure, as opposed to on the**
 16 **verge of detaching? Did the checklist used by the inspector specifically inquire into the**
 17 **conditions of the jumper cable? And, if so, what specifically was the inspector supposed**
 18 **to check?**

19 **Explain the specific causes of the detachment in October, and why those conditions**
 20 **weren't identified in the July inspection.**

21 **Regarding the February 2019 "climbing" inspection, who was the inspector?**
 22 **Again, the name and contact information may be filed under seal for now if PG&E**
 23 **requests. What contractor was hired for the job? As a "climbing" inspection, how close**
 24 **to the jumper cable did the inspector climb? Was the line energized? Did the inspector**
 25 **touch and/or tug on the jumper cable? Did the inspector take photographs of the**
 26 **jumper cable? If so, please provide them. What did the inspector do to ascertain**
 27 **whether the jumper cable remained secure, as opposed to on the verge of detaching?**
 28

1 What specifically was the inspector supposed to check to ensure that the jumper cable
2 was not in poor condition?

3 Explain why the February inspection did not discover the defects that led to the
4 separation in October.

5 With respect to the May drone inspection, from the provided photographs the tower
6 appears far enough away that it would be impossible to detect all but the most obvious
7 problems, such as a jumper cable that has already been well separated. Explain the
8 purpose of the drone inspection, and how that could have possibly been expected to
9 reveal the defects that led to the October detachment. Explain why the inspectors used
10 the incorrect form.

11
12 **DOCKET NO. 1111, QUESTION 5 ASKED:** Should we now be worried that other jumper
13 cables inspected in the same manner have potential failures that have gone undetected?

14
15 **PG&E REPLIED:** *“As part of its WSIP, PG&E recently completed enhanced inspections*
16 *of the vast majority of its transmission, distribution and substation assets in High Fire-Threat*
17 *District areas” (1119.9.14–15).*

18
19 **PGE did not fully answer Question 5. Shouldn’t we be concerned that the**
20 **inspections conducted by PG&E failed to detect the potential detachment on the tower in**
21 **question, and shouldn’t we be concerned that other inspections of other towers using the**
22 **same protocol have also failed to catch jumper cables on the verge of detachment?**
23 **What good are inspections that don’t find problems?**

24
25 **DOCKET NO. 1125, QUESTION 9 ASKED:** In what possible ways did the failure of the
26 hold-down anchor on the adjacent power line contribute to the failure of the C-hook on the
27 Incident Tower?

1 **PG&E REPLIED:** *“PG&E does not believe that the disconnection of the hold-down*
 2 *anchor at Tower :27/221 contributed in any non-negligible way to wear on the C-hook that*
 3 *broke on Tower :27/222 or its connection point. The C-hook on Tower :27/222 that failed did*
 4 *not directly support the conductor supported by the hold-down anchor on Tower :27/221 and*
 5 *was separated from that conductor by other components” (1128.12–25).*

6
 7 **With respect to the Camp Fire, PG&E was asked what is possible, not what they**
 8 **believe. Please explain plausible scenarios in which the failure of the hold-down anchor**
 9 **contributed to the failure of the C-hook, taking into consideration how the listed**
 10 **components and others (the insulator, jumper cables, links, etc.) all affected each other as**
 11 **a system. Did the C-hook that failed in any way interrelate with the anchor? Did the**
 12 **C-hook on Tower :27/222 and the hold-down anchor on Tower :27/221 share the same**
 13 **conductor line? Provide a diagram that shows the hold-down anchor, the C-hook that**
 14 **failed, and other relevant components.**

15
 16 **DOCKET NO. 1125, QUESTION 10:** Generally, what factors exacerbate the gouging of
 17 C-hooks (sway, vibration, weight), and to what extent were these factors known by PG&E
 18 before the Camp Fire?

19
 20 **PG&E REPLIED:** *“A variety of factors, including...the degree of tension on the*
 21 *conductor supported by the insulator assembly; the hardness, thickness and other material*
 22 *properties of the C-hook; the weight of the load supported by the C-hook; and environmental*
 23 *conditions [such as] . . . average and maximum wind speeds in the area, [and] the amount of*
 24 *time the C-hook and hanger plate are subjected to high-wind condition. In connection with*
 25 *some of the instances identified in response to Question 6 above, PG&E personnel noted that*
 26 *metal-on-metal rubbing caused or exacerbated by wind conditions could result in wear of*
 27 *C-hooks and hanger plates. Following the Camp Fire . . . PG&E retained Exponent, Inc., an*
 28 *independent third-party scientific and engineering consulting firm, to conduct a records-based*

1 *review of the Caribou-Palermo Line. Exponent’s final report has now been made public and*
 2 *discusses the factors that may cause or exacerbate wear on C-hooks and hanger plates”*
 3 *(1128.13.7–21).*

4
 5 **PGE did not fully answer Question 10, specifically the extent to which they knew**
 6 **about C-hook wear prior to the Camp Fire. With respect to how “PG&E personnel**
 7 **noted that metal-on-metal rubbing caused or exacerbated by wind conditions could result**
 8 **in wear of C-hooks and hanger plates,” what form did this notation take? Please provide**
 9 **them. Were these notes taken prior to the Camp Fire?**

10 **The Exponent report concludes that “factors such as design (link connectors and**
 11 **relatively large number of non-tensioned insulated connectors), long duration exposure to**
 12 **higher winds, age, and historical inspection methodologies likely contributed to these**
 13 **[increased rates of] cold end hardware issues” (Exponent Report on PG&E Caribou-**
 14 **Palermo Asset Condition Investigation, vi). PG&E must clarify what it knew with**
 15 **respect to these various factors prior to the Camp Fire.**

16 **Regarding component design, was PG&E aware that Caribou-Palmero towers used**
 17 **significantly lower weight conductors than non-adjacent comparison lines (Exponent**
 18 **Report, 61)? Was PG&E aware that lower span weights might increase susceptibility to**
 19 **wind-induced conductor sway, and thus wear? Was PG&E aware of the high correlation**
 20 **between non-tensioned insulated jumpers and cold-end hardware wear (Exponent**
 21 **Report, 75)?**

22 **Regarding wind conditions, was PG&E aware that the Caribou-Palmero line**
 23 **experienced higher than average Aolian conditions (low, sustained wind speeds)?**
 24 **Was PG&E aware that these conditions were known to cause hardware fatigue or wear**
 25 **damage over time in towers? (Exponent Report, 57)? Was PG&E aware that the**
 26 **Caribou-Palmero line experienced double the amount of galloping winds of next closest**
 27 **lines (relatively high wind speeds)? Was PG&E aware that these higher sustained winds**
 28

1 were more likely to cause motion in non-tensioned lines and hardware (Exponent Report,
2 57)?

3 Regarding the age of components, how old were the C-hooks on the Caribou-
4 Palmero line? PG&E previously stated that the non-routine climbing investigation of
5 Caribou-Palmero the month of the Camp Fire was related to the age of the line
6 (CAMP-0676). Did PG&E know that older towers might be more at risk of cold-end
7 hardware wear? Was that the primary factor in selecting Caribou-Palmero for a
8 non-routine climbing investigation?

9 Further questions shall be answered about the nature of the non-routine climbing
10 inspection that occurred just before the Camp Fire, from September 19, 2018 to
11 November 5, 2018. There was an inspection of the Caribou-Palmero line the month of
12 the fire. It is obvious from the nature of the C-hook gouging that this issue would have
13 been visible to any inspector who got close enough to see the condition of the C-hook.

14 No high-priority tags associated with cold-end hardware wear were found from
15 January 2001 to October 2018 (Exponent Report, 68). The November 2018 non-routine
16 inspection caught 141 issues along the Caribou-Palmero lines, but found zero cold-end
17 hardware issues (Exponent Report, 67). A post-fire inspection from November 8, 2018, to
18 June 19, 2019, using new inspection procedures, caught 32 issues of high-priority wear on
19 cold-end hardware (Exponent Report, 40). What accounts for the fact that there were
20 32 incidents of high-priority cold-end hardware wear discovered after the disaster?
21 Why were they not caught earlier? What were the new inspection procedures?
22 What accounts for the change in inspection procedures?

23 Why did the September 2018 revision of the detailed climbing inspection form for
24 non-500kV structures inquire into the condition of cold-end hardware, whereas the older
25 form did not (CAMP-0636; compared with CAMP-0641)?

26 What do new “enhanced” inspection procedures, including CIRT and DIRT,
27 require of inspectors to check for cold-end hardware wear? What are the names and
28 contact information of the inspectors who conducted the post-fire inspection?

PG&E may request to keep the names under seal. Were they contractors? Was the line de-energized? What specifically did the inspectors do to ascertain whether the C-hooks remained in good condition? Did the post-fire climbing inspection form inquire into the condition of cold-end hardware? If no, why not? And, if so, what specifically was the inspector supposed to check? There were three times more cold-end insulator high-priority incident tags along the Caribou-Palmero line caught post-fire than the next highest line (Exponent Report, 75). What accounts for this high incident rate?

Append to your response the ten most pertinent emails, memos, text messages or other documents (including electronic documents) that show the true extent to which PG&E knew *before* the Camp Fire that C-hook wear was a safety problem. Do *NOT* refer to large swaths of documents. PG&E must find and append the ten (and only ten) most pertinent documents.

DOCKET 1129, QUESTION 1 ASKED: PG&E shall please file a statement stating whether PG&E is in full compliance (not substantial compliance) with the above stated conditions. If not, state the extent to which it has fallen short.

PG&E REPLIED REGARDING FACILITY PATROLS FOLLOWING PSPS DE-ENERGIZATION:

“This target has not been met as originally framed because PG&E executed its PSPS re-energization strategy in a manner different from that described in the Wildfire Safety Plan that the CPUC has adopted PG&E’s current strategy is to patrol all lines that were identified as meeting PSPS de-energization criteria before re-energizing following a PSPS event and to exercise operational judgment to determine whether to patrol lines that were interrupted only as a secondary effect of the de-energization of other line” (1132.12.22–13.12).

Please provide more details on the extent that PG&E has fallen short. Please explain why PG&E is now following a new patrol strategy that is not approved by the CPUC. Please explain how this strategy differs from the CPUC-approved strategy.

1 **Please explain in more detail how PG&E exercises “operational judgement” to determine**
2 **whether to re-energize patrol lines.**

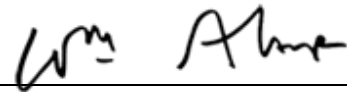
3
4 **DOCKET NO. 1135, AMENDED RESPONSE TO QUESTIONS TO PG&E RE LATE**
5 **OCTOBER PSPS:**

6
7 **PG&E REPLIED:** *“PG&E identified approximately 102 instances of damage to its*
8 *infrastructure that appear to have been caused by extreme wind and/or other fire conditions*
9 *present during the October 26 and 29 PSPSs.” (1135.3.15–17).*

10
11 **With respect to your January 29 amended response, please explain by way of**
12 **examples your use of the term “infrastructure damage,” giving examples as to both**
13 **distribution lines and transmission lines.**

14
15 **IT IS SO ORDERED.**

16
17 Dated: February 4, 2020.

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19 

20 WILLIAM ALSUP
21 UNITED STATES DISTRICT JUDGE
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